WHAT IS CLAIMED IS:

1. A method of forming metallization patterns on a block of dielectric material comprising the steps of:

forming a dielectric block having a surface area including at least one planar surface;

encasing the entire surface area of said dielectric block with a conductive metal; and

ablatively etching unwanted conductive metal from said at least one planar designated surface area of said dielectric block to form at least some desired metallized circuit patterns.

2. The method of claim 1 further comprising the step of forming said dielectric block of a ceramic.

3. The method of claim 2 wherein the step of encasing the entire surface area of said dielectric block with a conductive metal further comprises the steps of:

using an electrically conductive metallic paste as said conductive metal; and

solidifying said conductive metallic paste into a metallic material.

4. The method of claim 1 further comprising the step of heat treating said conductive metal prior to said ablative etching to cause adherence of said conductive metal to said dielectric block.

5. The method of claim 2 further comprising the step of heating said ablatively etched ceramic dielectric blocks in an ambient atmosphere to increase the "Q" of said ceramic dielectric block.

6. The method of claim 1 further comprising the step of using a laser beam to ablatively etch unwanted metal and form said desired metallized circuit pattern as a circuit for receiving RF signals.

7. The method of claim 1 wherein the step of ablatively etching unwanted metallic material also removes a portion of said dielectric block to a depth sufficiently below said at least one planar surface to form a trench to electrically isolate adjacent metallic areas formed by said ablative etching.

8. A method of forming RF ceramic block filters comprising the steps of:

(1) coating the entire external surface area of a ceramic dielectric block with a conductive metal;

(2) causing said conductive metal to adhere to said ceramic block; and

(3) ablatively etching unwanted conductive metal and a corresponding portion of said ceramic block from a designated surface area of said coated ceramic block to form desired metallized filter circuit patterns.

9. The method of claim 8 further comprising the steps of:

ablatively removing a portion of said ceramic block and corresponding conductive metal to form a trench having a predetermined depth and width sufficient to effectively isolate at least some conductive metallic areas adjacent said filter circuit patterns and to establish a predetermined capacitive coupling between adjacent metallic areas; and

forming input and output terminals on a surface area of said coated ceramic block for coupling electrical signals to said desired metallized circuit filter patterns.

10. The method of claim 9 further comprising the steps of:

(4) coupling an input signal to said input terminal;

(5) monitoring an output signal at said output terminal to determine at least one electrical characteristic of said ablated ceramic block filter; and

(6) repeating the steps (1) through (5) until at least one desired electrical characteristic of said filter is obtained.

11. The method of claim 10 further comprising the step of:

(7) manufacturing predetermined quantities of the ceramic block filters having the desired electrical characteristic.

12. The method of claim 11 further comprising the steps of:

(8) heating each of said manufactured ceramic blocks; and

(9) utilizing an ambient atmosphere during said heating of said ceramic blocks to increase the "Q" of said ceramic blocks.

13. A method of forming an RF filter comprising the steps of:

forming a block of dielectric material having multiple surfaces including at least one planar surface;

coating a layer of electrically conductive metallic material on all of the multiple surfaces of said block of dielectric material; and

ablatively removing trenches of selected areas of dielectric material and metallic material from at least a portion of said at least one planar surface to form an electrical RF filter pattern of conductive metal providing a predetermined filter frequency response.

14. The method of claim 13 further comprising the step of:

forming said trenches in said selected areas with a predetermined depth below said planar surface of said at least one of said dielectric block surfaces and with a predetermined width; the depth and width of said trenches establishing the frequency response of said filter.

15. The method of claim 13 further including the step of:

ablatively removing metallic material and corresponding dielectric material from at least one of said ceramic block surfaces to form a first terminal as an input terminal and a second terminal as an output terminal.

16. A method of forming a duplexer circuit for an RF transmit/receive circuit comprising the steps of:

forming a block of dielectric material having multiple surfaces including at least one planar surface;

adhering a layer of electrically conductive metallic material on all of the multiple surfaces of said block of dielectric material;

ablatively removing a first selected area of metallic material and corresponding dielectric material from said at least one planar surface to first predetermined depths and widths to form a first electrical filter circuit pattern of electrically isolated conductive elements having a first predetermined filter frequency response;

ablatively removing a second different selected area of metallic material and corresponding dielectric material from said at least one planar surface to second predetermined depths and widths to form a second electrical filter circuit pattern of electrically isolated conductive elements having a second predetermined filter frequency response; and

forming a first terminal as an input terminal and a second terminal as an output terminal, said first and second terminals being formed on at least one of said block surfaces by removing surrounding metallic material and corresponding ceramic material sufficient to electrically isolate said input and said output terminals from the surrounding electrically conductive material.

17. The method of claim 16 further comprising the steps of:

forming a third terminal on at least one of said block surfaces by removing said metallic material and corresponding dielectric material in an area surrounding said third terminal sufficient to electrically isolate said third terminal from the surrounding conductive metallic material;

said third terminal coupling an antenna to said first and second filters; and

electrically coupling said first input terminal and said second output terminal to respective ones of said first and second filter circuits, said third terminal and to said first and second electrical filter circuit pattern elements forming a duplexer for transmit/receive RF communications.

18. An RF filter comprising:

a block of dielectric material having multiple surfaces including at least one planar surface;

a layer of electrically conductive material adhered to all of the multiple surfaces of said block of dielectric material;

a ground plane formed by at least one of said electrically conductive surfaces;

an electrical filter circuit pattern of multiple conductive elements being formed in said layer of electrically conductive material on at least said one planar surface;

wherein said circuit pattern comprises:

a trench at least partially surrounding each of said conductive elements, said trench comprising recessed areas that extend through said conductive material and into corresponding dielectric material, said trenches having a predetermined shape determining the coupling capacitance between said conductive elements and said ground plane, said coupling capacitance determining an operating characteristic of said filter.

19. The RF filter of claim 18 wherein said predetermined shape of said trenches comprises predetermined depths and widths of said recessed areas.

20. The RF filter of claim 19 wherein said trenches are formed by ablatively removing said conductive material and corresponding dielectric material to said predetermined depths and widths.

21. A duplexer for an RF receiver/transmitter unit comprising:

a block of dielectric material having multiple surfaces including at least one planar surface;

a layer of metallic material coating all of the multiple surfaces of said block of dielectric material;

a ground plane formed by at least some of said metallic surfaces;

an RF receiver filter being formed in a first area of said at least one planar surface, and comprising:

first plurality of conductive elements;

a first trench completely surrounding at least some of said conductive elements to electrically isolate them;

each first trench having a predetermined shape and comprising recessed areas having a predetermined depth and width and that extend through said metallic material and into corresponding dielectric material; and

a first capacitive coupling between said first plurality of conductive elements and said ground plane that is determined by the depth and width of said recessed areas;

said first capacitive coupling determining the operating frequency of said RF receiver filter;

an RF transmitter filter formed in a second different area of said at least one planar surface, and comprising:

a second plurality of conductive elements;

a second trench completely surrounding at least some of said second plurality of conductive elements to electrically isolate them;

said second trenches having a predetermined shape and comprising second recessed areas having a second

predetermined depth and width that extend through said metallic material and into corresponding dielectric material; and

a second capacitive coupling between said second plurality of conductive elements and said ground plane that is determined by the second predetermined depth and width of said second recessed areas;

said second capacitive coupling determining the operating frequency of said transmitter filter;

first and second terminals formed on at least one surface of said coated dielectric block for coupling RF signals to respective ones of said receiver filter and said transmitter filter; and

a third terminal for receiving an antenna connection, said third terminal being electrically coupled to said receiver filter and said transmitter filter for conveying RF signals between said antenna and said RF receiver and said RF transmitter.

22. The RF duplexer of claim 21 wherein said trenchs are formed by ablatively removing said metallic material and said corresponding dielectric material to said predetermined depths and widths.

23. An RF filter comprising:

a dielectric block having at least one planar surface;

a layer of electrically conductive material disposed on at least a portion of said dielectric block planar surface;

a ground plane formed on at least one other block surface;

a pattern of dielectric material forming electrically conductive circuit elements on said dielectric block planar surface by electrically isolating said electrically conductive circuit elements from each other and from said ground plane;

said electrically conductive circuit elements having a first elevation above said dielectric block planar surface;

at least one ablatively etched trench forming at least a portion of said pattern of dielectric material that electrically isolates said electrically conductive circuit elements; and

said trench extending into said dielectric material one or more predetermined depths below said dielectric planar surface to electrically isolate said electrical circuit pattern elements.

24. The filter of claim 23 wherein:

at least 10% of said trench portion is formed by ablatively etching said pattern of dielectric material to electrically isolate said electrical circuit pattern elements.

25. The filter of claim 23 wherein:

said trench portion of said pattern of dielectric material electrically isolating said electrical circuit pattern elements is preferably in the range of from about 70% to about 90% thereof.

26. The filter of claim 23 wherein said trenches are formed by ablatively removing said metallic material and said dielectric material to said first and second predetermined depths and widths with a laser beam.